

## **REMARKS**

Claims 1-7, 9-16 and 22-24 are pending in the application.

Independent claims 1 and 22-24 are each amended above to: (a) to remove brackets around "covert", (b) to include a clarification of the meaning of "security domain", and (c) to include the limitation of former claim 6.

Claim 5 has been amended to remove the term "substantially".

Claim 6 has been cancelled from the application without prejudice.

No new matter has been added to the application by way of these specification and claim amendments.

### **I. THE SECTION 112, 2<sup>nd</sup> PARAGRAPH REJECTION OF CLAIM 5**

The examiner rejected claim 5 for being indefinite for use of the term "substantially".

The examiner's rejection is overcome by amending claim 5 to remove the indefinite term.

### **II. THE CLAIM OBJECTIONS**

The examiner objected to independent claims 1 and 22-24 for including the word "covert" in brackets.

The examiner's claim objections are overcome by amending the independent claims to remove the brackets from the term "covert".

### **III. THE ANTICIPATION REJECTION**

The examiner rejected claims 1-2, 4-5, 9-10, 14, 16 and 22-24 for being anticipated by Patton (USPA 2003/145017).

The examiner's anticipation rejection is overcome at least by amending all independent claims to include the feature of dependent claim 6. In addition, Patton does not disclose all of the features of the original dependent claims for at least the reasons cited in Section IV below.

### **IV. THE OBVIOUSNESS REJECTION**

The examiner rejected claims 3, 6-8, 11-13 and 15 for being obvious over Patton in view of a variety of secondary references. In particular, the examiner rejects claim 3 for being

obvious over Patton in view of Carter (USP 5,787,175); claims 6-8 for being unpatentable over Patton in view of Simard (USP 7,624,277); claims 11-13 for being unpatentable over Patton in view of Walsh (USP 5,956,481) and claim 15 over Patton in view of Williams (USP 6,304,973).

**A. All Claims Are Non-Obvious And Patentable**

All pending claims are non-obvious and patentable at least because there is no prima facie case of obviousness with respect to any independent claim. Moreover, all claims are obvious because the combination of Patton and Simard does not result in the claimed invention.

**1. There is no prima facie case of obviousness because Patton is directed to methods for processing documents based upon “overt” information therein while the claimed invention is directed documents including “covert” security threats**

All pending claims non-obvious and patentable at least because the examiner has not shown that the cited prior art discloses or suggests methods for detecting and processing documents with covert security threats. The presently claimed invention is directed to a substantially automated method of removing covert threats hidden or concealed in a document, not by visually/manually analysing the documents to identify those threats, but rather by applying predetermined automated transformations to the documents thereby to mitigate the effect of such threats without identification of the specific threats and without requiring intervention by a human operator - though an optional step (claim 2) of user sanctioning of the second (i.e. output) document may involve a human operator.

In addition, all claims are non-obvious and patentable because the cited prior art does not disclose documents that include security threats as that term is properly construed in the present application. The scope of the claims of a patent application is not determined solely on the basis of the claim language, but upon giving claims their broadest reasonable construction "in light of the specification as it would be interpreted by one of ordinary skill in the art." *In re Am. Acad. of Sci. Tech. Ctr.*, 367 F.3d 1359, 1364[, 70 USPQ2d 1827] (Fed. Cir. 2004). Indeed, the rules of the PTO require that application claims must "conform to the invention as set forth in the remainder of the specification and the terms and phrases used in the claims must find clear support or antecedent basis in the description so that the meaning of the terms in the claims may be ascertainable by reference to the description." 37 CFR 1.75(d)(1). Here, the term “security threat” is generally discussed in the context of malicious code that is invisible to the observer.

In contrast the disclosure of Patton makes no reference whatsoever to documents

"capable to supporting one or more covert security threats". Instead Patton relates only to a process for censoring documents which overtly contain sensitive (e.g. confidential) information (which is therefore by definition not a "covert threat") which can be visually identified by human auditors who must view and manually tag each and every such document, and subsequently delete tagged information in order to generate a version of the document to be forwarded to persons not authorised to receive the redacted material. Indeed, Patton is expressly limited to censoring "identifiable restricted technical data or information for export or transfer". (See, .e.g. para. [0029] of Patton). Patton therefore, by teaching a necessarily human intervention centred approach of inspecting and manually removing overt restricted technical content in documents - and hence addressing only information sensitivity or confidentiality - positively teaches away both from the specifically claimed material and from one underlying goal, namely to provide an automated means of mitigating the risk from covert threats. Those covert threats may relate to leakage of (maliciously) concealed confidential information, or transmission of computer viruses, etc. - concealed within electronic documents whereby to minimise human intervention which would otherwise cause an undesirable bottle-neck in such systems.

## **2. The amended independent claims are non-obvious and patentable**

As noted above, independent claims 1 and 22-24 are amended to include the feature of cancelled claim 6. The examiner has admitted that Patton does not disclose the feature of original claim 6 and relies instead upon Simard for disclosing the feature – namely "wherein creating said second document comprises adding at least one of entropy and randomness to a least one characteristic of the representation of the first document".

Whilst Simard might arguably add entropy and or randomness etc. to an image, it does not do so in any context of automatedly mitigating covert threats embedded within the image whilst substantially maintaining the visible image whereby to minimise human involvement. In direct contrast in fact, it deliberately sets out to visibly deform the viewed image for the express purpose of preventing automated processing of the image so as to require human intervention in the processing of each and every such image. That is, the exact opposite of the present invention. Therefore, Simard when combined with Patton would not result in the claimed invention.

## **B. Claims 4-5 Are Independently Non-Obvious And Patentable**

Claims 4-5 and 15 are independently patentable over the cited prior art.

Regarding claim 4, contrary to Examiner's assertion, Patton fails to disclose use of a data diode. As the term suggests, a data diode acts to permit data flow in one direction whilst preventing flow in the opposite direction. There is nothing in the disclosure of Patton - and in particular in paragraph [0031] cited by the Examiner - to suggest that data cannot flow from external or foreign persons into the disclosed system. Indeed, Patton is entirely silent about this possibility.

Regarding claim 5, Patton teaches that sanitization involves positively removing sensitive content from a document. Since the removed sanitized information was of necessity visible to a human auditor processing the document and since such information may vary in length from a single word or sentence, through multiple paragraphs, to virtually the entire content of some documents, it is hard to envisage that the resulting visible information content is preserved. The whole point of Patton is to remove formerly visible information content. For at least this reason, claim 5 is independently patentable.

Regarding claim 15, the purpose of Patton is to provide a system to prevent leakage of confidential content from what he deems relatively higher-level domain (e.g. US) to a relatively lower-level domain (e.g. foreigners). The skilled person would find no utility whatsoever in employing such a system to process documents transferred from low-level domain to higher level domain since, by definition, user in the higher-level domain (as regards data confidentiality as disclosed in Patton) would be allowed to access data of a lower classification emanating for the lower-level domain so that all the effort of viewing and tagging each document from the lower level domain would be nugatory since there would be no subsequent need to redact any of the tagged material. For at least this reason, it would have been illogical at the time of the invention for this skilled person to combine the teachings of Patton with that of Williams to reach the claim 15 invention.

### **CONCLUSION**

All pending application claims are believed to be ready for patenting for at least the reasons recited above. Favorable reconsideration and allowance of all pending application claims is, therefore, courteously solicited.

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